Louisiana's Draft RESTORE Act Multiyear Implementation and Expenditure Plan

I. EXECUTIVE SUMMARY

The Resources and Ecosystems Sustainability, Tourist Opportunities, and Revived Economies of the Gulf Coast States Act of 2012 ("RESTORE Act") requires the State of Louisiana, through the Coastal Protection and Restoration Authority ("CPRA"), to publish (i) a Multiyear Implementation Plan detailing its plan to expend funds under the Direct Component of the RESTORE Act, subject to review by the U.S. Department of Treasury ("Treasury"); and (ii) a State Expenditure Plan detailing its plan to expend funds under the Spill Impact Component of the RESTORE Act, subject to approval by the Gulf Coast Ecosystem Restoration Council ("RESTORE Council"). Because the activities eligible for funding under the Direct Component and Spill Impact Component are nearly identical, and the requirements for both the Multiyear Implementation Plan and the State Expenditure Plan are similar, the State of Louisiana has elected to combine these two plans into a single document entitled "Multiyear Implementation and Expenditure Plan" (the "Plan").

Treasury's March 19, 2015 Gulf Coast Restoration Trust Fund ("Trust Fund") allocation specifies that Direct Component funds in the amount of $39,404,635.85 are available to the State of Louisiana. Accordingly, this Plan contains the projects and programs identified for funding by the CPRA with these funds. The Oil Spill Impact Allocation amount, and projects to be funded, will be determined at a later date by the RESTORE Council once the Council has established the allocation formula among the five Gulf Coast States by regulation. Additional funding is also anticipated upon conclusion of the *Deepwater Horizon* Clean Water Act trial in New Orleans, Louisiana. This Plan will be amended once those additional anticipated funds are known.

The projects and programs proposed for funding in this Plan include the Houma Navigation Canal Lock Complex ($16,000,000), Calcasieu Ship Channel Salinity Control Measures ($16,000,000) and Adaptive Management ($2,400,000). The remaining available funds will be allocated by the CPRA to the parish matching program (approximately $3,900,000). The projects selected for inclusion in this Plan are the result of decades of planning and the information developed through the Coastal Master Plan process. The selection of the projects and programs described in this Plan will be finalized after the public comment period described herein has concluded.

II. BACKGROUND AND PURPOSE

The RESTORE Act was signed into law on July 6, 2012. The RESTORE Act creates a Gulf Coast Ecosystem Restoration Council and a Gulf Coast Restoration Trust Fund and dedicates 80% of the administrative and civil penalties paid after the enactment of the Act under the Federal Water Pollution Control Act in connection with the *Deepwater Horizon* oil spill to the Trust Fund for the restoration and protection of the Gulf Coast region. The RESTORE Act contains five different funding components, one of which directs 35% of the funds deposited into the Trust Fund to each of the five Gulf Coast States in equal shares for expenditure for

ecological and economic restoration of the Gulf Coast region (the "Direct Component") and one of which directs 30% of the funds deposited in the Trust Fund to each of the five Gulf Coast States to address the ecological and economic impacts from the oil spill based on a formula established by the Council by regulation (the "Spill Impact Component"). In order for a Gulf Coast State to receive funding under the Direct Component or the Spill Impact Component of the RESTORE Act, the States must first develop a plan for the expenditure of Trust Fund monies under those funding components.

In August 2014, Treasury published the Interim Final Rule for the RESTORE Act which became effective on October 14, 2014. The Interim Final Rule specifies that the duties of the State of Louisiana for the development and submission of the Multiyear Implementation Plan under the Direct Component and the State Expenditure Plan under the Spill Impact Component will be carried out by the CPRA, subject to approval by the CPRA Board. Because the purposes for which funds may be used under the Direct Component and the Spill Impact Component are similar and because the plans which the state must develop in order to receive these funds have similar requirements, the state has elected to create a single document that may serve the purposes of both plans – a Multiyear Implementation and Expenditure Plan – which will be guided by the state's Comprehensive Master Plan for a Sustainable Coast (the "Coastal Master Plan"). Treasury's Interim Final Rule requires each of the Gulf Coast States to make the plans available for public review and comment for a minimum of 45 days in a manner calculated to obtain broad-based participation from individuals, businesses, Indian tribes, and non-profit organizations. 31 C.F.R. §§ 303(a)(8) and 503(g).

Louisiana law also applies to the funds provided to the state under the RESTORE Act. Specifically, according to La. R.S. 49:214.5.4(I)(1), any monies received by the state pursuant to the RESTORE Act, shall be deposited and credited by the treasurer to the Coastal Protection and Restoration Fund for integrated coastal protection efforts, including coastal restoration, hurricane protection, and improving the resiliency of the Louisiana Coastal Area affected by the *Deepwater Horizon* oil spill. Because RESTORE Act funds will be deposited into the Coastal Protection and Restoration Fund, under La. R.S. 49:214.5.4(G), these funds must be used for the purposes of integrated coastal protection and may be used only for those projects and programs which are consistent with the statement of intent, R.S. 49:214.1, and the master and annual plans for integrated coastal protection, R.S. 49:214.5.3.

Accordingly, this Multiyear Implementation and Expenditure Plan will describe how the state intends to use Trust Fund money under the Direct Component and Spill Impact Component and how the proposed activities in the Plan are contained in, or consistent with or complimentary to, Louisiana's Coastal Master Plan and:

A. Eligible for funding under the RESTORE Act, and
B. Consistent with the goals and objectives of the RESTORE Council's Comprehensive Plan

A. Eligible Projects under the RESTORE Act

The RESTORE Act contains eleven categories of activities eligible for funding under the Direct Component and the Spill Impact Component:

1. Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches and coastal wetlands of the Gulf Coast region.
2. Mitigation of damage to fish, wildlife, and natural resources.
3. Implementation of a federally-approved marine, coastal, or comprehensive conservation management plan, including fisheries monitoring.
4. Workforce development and job creation.
5. Improvements to or on State parks located in coastal areas affected by the *Deepwater Horizon* oil spill.
6. Infrastructure projects benefiting the economy or ecological resources, including port infrastructure.
7. Coastal flood protection and related infrastructure.
8. Planning assistance.
9. Administrative costs of complying with the Act.
10. Promotion of tourism in the Gulf Coast region, including recreational fishing.
11. Promotion of the consumption of seafood harvested from the Gulf Coast region.

As discussed in Section V of this Multiyear Implementation and Expenditure Plan, the projects selected for funding under this Plan are eligible for funding under the Direct Component and the Spill Impact Component of the RESTORE Act.

B. Consistencies between the RESTORE Council's Comprehensive Plan and Louisiana's Coastal Master Plan

The RESTORE Council adopted five goals in its Comprehensive Plan. Those goals are:

1. Restore and Conserve Habitat – Restore and conserve the health, diversity, and resilience of key coastal, estuarine, and marine habitats.
2. Restore Water Quality – Restore and protect water quality of the Gulf Coast region's fresh, estuarine, and marine waters.
3. Replenish and Protect Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources.
4. Enhance Community Resilience – Build upon and sustain communities with capacity to adapt to short- and long-term changes.
5. Restore and Revitalize the Gulf Economy – Enhance the sustainability and resiliency of the Gulf economy.

The Council also adopted seven objectives in its Comprehensive Plan. Those objectives are:

1. Restore, Enhance, and Protect Habitats – Restore, enhance, and protect the extent, functionality, resiliency, and sustainability of coastal, freshwater, estuarine, wildlife, and marine

habitats. These include barrier islands, beaches, dunes, coastal wetlands, coastal forests, pine savannahs, coastal prairies, submerged aquatic vegetation, oyster reefs, and shallow and deepwater corals.

2. Restore, Improve, and Protect Water Resources – Restore, improve, and protect the Gulf Coast region's fresh, estuarine, and marine water resources by reducing or treating nutrient and pollutant loading; and improving the management of freshwater flows, discharges to and withdrawals from critical systems.
3. Protect and Restore Living Coastal and Marine Resources – Restore and protect healthy, diverse, and sustainable living coastal and marine resources including finfish, shellfish, birds, mammals, reptiles, coral, and deep benthic communities.
4. Restore and Enhance Natural Processes and Shorelines – Restore and enhance ecosystem resilience, sustainability, and natural defenses through the restoration of natural coastal, estuarine, and riverine processes, and/or the restoration of natural shorelines.
5. Promote Community Resilience – Build and sustain Gulf Coast communities' capacity to adapt to short- and long-term natural and man-made hazards, particularly increased flood risks associated with sea-level rise and environmental stressors. Promote ecosystem restoration that enhances community resilience through the re-establishment of non-structural, natural buffers against storms and flooding.
6. Promote Natural Resource Stewardship and Environmental Education – Promote and enhance natural resource stewardship efforts that include formal and informal educational opportunities, professional development and training, communication, and actions for all ages.
7. Improve Science-Based Decision-Making Processes – Improve science-based decision-making processes used by the Council.

Louisiana's Coastal Master Plan, on which this Multiyear Implementation and Expenditure Plan is based, is guided by a mission which is comprehensive in scope and based on a broad range of objectives, principles, decision drivers and decision criteria. (Coastal Master Plan pp. 44-63). This mission represents the result of a broad-based collaboration among local, state and national stakeholders and uses cutting edge technical analysis to "think big and evaluate the needs of the entire coast". (*Id.* at 45). To anchor this mission in more detail, the Coastal Master Plan orients its efforts about five objectives which seek to improve flood protection for families and businesses, re-create the natural processes that built Louisiana's delta and coastal habitats, and ensure the protection of the state's working coast. Accordingly, this Multiyear Implementation and Expenditure Plan, and the Coastal Master Plan by which this Plan is guided, are based on a common mission that is clearly consistent with the goals and objectives of the RESTORE Council's Comprehensive Plan. (*Id.*).

III. PUBLIC PARTICIPATION STATEMENT

The Multiyear Implementation and Expenditure Plan shall be published and made available for public review and comment for a minimum of forty five (45) days in a manner calculated to obtain broad-based participation from individuals, businesses, Indian tribes, and non-profit organizations in accordance with 31 C.F.R. §§34.303(a)(8) and 34.503(g) and will be adopted after consideration of all meaningful input. Public comments on the Multiyear Implementation and Expenditure Plan will be accepted from May 20, 2015 – July 6, 2015, and may be submitted via email to: coastal@la.gov, or via regular mail to: CPRA, Attn: Jenny Kurz, P.O. Box 44027, Baton Rouge, LA 70804.

As projects become available for matching opportunities in the future, and as the funds available under the Spill Impact Component become certain, this Plan will be amended to add projects. Amendments to the Plan will undergo the same procedure for public comment as outlined above.

IV. OVERVIEW OF LOUISIANA'S INTEGRATED COASTAL PROTECTION AND RESTORATION PLANNING EFFORTS

A. Brief Overview of the CPRA's Planning Strategy for Coastal Restoration

The projects selected for inclusion in this Multiyear Implementation and Expenditure Plan are the product of decades of planning and have been identified using the information gathered and developed through the Coastal Master Plan process. This process is based on a well-established understanding of the inevitability of land loss and subsidence in the Mississippi River Delta following the construction of levees along the river.[1] This natural subsidence and wetland loss, accelerated by human action, and exacerbated by sea level rise, storm damage, salt water intrusion, and other processes over time has not only depleted Louisiana's coast of vibrant habitat, but has also increased the vulnerability of its communities and industries established along the coast. To match this building crisis the State of Louisiana has been planning and implementing restoration and protection projects for almost two decades.

After a variety of reports and partnerships initiated by the passage of the Coastal Wetlands Planning, Protection and Restoration Act ("CWPPRA") in 1990 the state of Louisiana completed the first iteration of its *Comprehensive Master Plan for a Sustainable Coast* ("Coastal Master Plan") in 2007. This plan was the first major product of the newly formed Coastal Protection and Restoration Authority ("CPRA"). The CPRA was conceived in the aftermath of Hurricanes Katrina and Rita in 2005 to comprehensively pursue the long-term sustainability of coastal Louisiana through the implementation of large scale projects capable of addressing the problems faced across the entire coast. The Coastal Master Plan was ordered by law to be updated every five years in order to take into account the best available science and the ever-changing conditions on the ground.

After 2007, state and federal investments in the protection and restoration of Louisiana's coast picked up dramatically, allowing for the implementation of improvements to our coastal communities' hurricane protection systems, as well as shoreline protection, marsh creation, barrier island repairs and other projects that have taught the engineers and planners involved in this effort many lessons and allowed them to begin to contemplate truly landscape scale changes.

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[1] *"The effect of the withholding by the levees from the great areas of the delta of the annual contributions of sedimentary matters, and the steady, though slow, subsidence of these areas, is one which should be taken into account in deciding the important question of how to protect the people from the flood waters of the river. No doubt the great benefit to the present and two or three following generations accruing from a complete system of absolutely protective levees, excluding the flood waters entirely from the great areas of the lower delta country, far outweighs the disadvantages to future generations from the subsidence of the gulf delta lands below the level of the sea and their gradual abandonment due to this cause. While it would be generally conceded that the present generation should not be selfish, yet it is safe to say that the development of the delta country during the twentieth century by a fully protective levee system, at whatever cost to the riparian states and the Federal Government, will be so remarkable that people of the whole United States can well afford, when the time comes, to build a protective levee against the Gulf waters, as the city of New Orleans has done on a small scale against the sea waters of Lake Pontchartrain, and as Holland has done for centuries…" (the National Geographic Magazine December, 1897. Vol. VIII, No. 13, page 354).*

The second edition of the Coastal Master Plan was adopted by the Louisiana State Legislature in 2012, two years after the *Deepwater Horizon* oil spill. This plan looks fifty years into Louisiana's future and, relying on world class science and engineering, presents large-scale actions that best match the needs of the coast with the resources available. The 2012 Coastal Master Plan effort included the development of rigorous planning tools and prioritization methods to evaluate hundreds of projects, a process which will be more fully explained in Section VI of this Plan, in order to clearly lay out the state's priorities for achieving sustainability.

Since the creation of the CPRA in 2007 the agency has been extremely effective in implementing projects. Not counting the $8.7 billion already spent on the Hurricane and Storm Damage Risk Reduction System in the New Orleans area, the CPRA has coordinated the implementation of $2.9 billion in protection projects and infrastructure projects in coastal Louisiana. It has also put to work $2 billion in restoration projects such as Barrier Island and headland restoration, marsh creation, hydrologic restoration, oyster reef creation and other projects. Now, in the aftermath of the *Deepwater Horizon* oil spill the state is well-positioned to identify and progress projects aligned to the funding opportunities and restrictions created through the civil and criminal penalties associated with that disaster. With regard to the RESTORE Act in particular, Louisiana's governor has pledged to use all RESTORE funds toward Master Plan projects, a commitment that was codified in state law at La. R.S. 49:214.5.4(I).

This history of planning and implementing projects will inform the state's position with regard to supporting large-scale projects with the greatest potential to impact the Gulf Coast ecosystem in its participation on the RESTORE Council and in this Multiyear Implementation and Expenditure Plan to implement those funds received by the state under the Direct Component and the Spill Impact Component of the RESTORE Act. Accordingly, this document aims to meet the established requirements for both the Multiyear Implementation Plan (required for allocations from the Direct Component) and the State Expenditure Plan (required for allocations from the Spill Impact Component).

B. Louisiana's Coastal Master Plan Public Process

The CPRA established a strategic outreach and engagement framework for the State of Louisiana's 2012 Coastal Master Plan, which helped guide communications and interactions with diverse audiences throughout the planning process. (*See* 2012 Coastal Master Plan at pp. 120, 122, 126 & 160-163). These audiences included key citizen groups and organizations, non-governmental organizations, local and state officials, business groups and the general public. CPRA's outreach and engagement framework provides a variety of ways for stakeholders and citizens to learn about and participate in the master planning process, including small group gatherings, web offerings, direct communication with local and state government, and through monthly public meetings.

The CPRA's public outreach efforts for the 2012 Coastal Master Plan began with a meeting of 40 state legislators as well as coastal parish officials to gain their perspective about how coastal action affects communities. CPRA also met with community groups including rotary clubs, advocacy organizations, and school groups across the coast. Other groups were established to provide structured and ongoing advice from key businesses and industries, federal agencies, non-profits, Native American groups, and local organizations as well as coastal scientists and planning experts. These groups provided recommendations and guidance as the plan was developed so that the finished product would reflect broad perspectives and the best possible

technical approach. These groups included a framework development team, focus groups of key coastal industries, a science and engineering board, and technical advisory committees.

Ten regional community meetings were held from July through September of 2011, where further input was received from residents. Approximately 600 citizens attended those regional community meetings. Together with online input, a total of 800 citizens expressed their views concerning coastal priorities. Once the draft plan was compiled, it was made available on the CPRA website, and three open house public hearings were held to receive feedback on the draft plan in Houma, New Orleans, and Lake Charles. All told, more than 2,200 comments were received at public hearings, via email, the website, and mail.

The 2012 Coastal Master Plan was also published on CPRA's website and made available for public comment from January 12, 2012 through February 25, 2012 (45 days). The comments were reviewed and considered with great care in order to incorporate them into the final plan. Project-specific comments were further evaluated to determine the implications of each proposed change. In some cases, significant changes were made to the draft plan regarding project location and design. The final plan was submitted and approved by the CPRA Board in a public meeting before proceeding to the legislature for final approval. During the legislative process, the Coastal Master Plan was considered, debated, and open to further public input before receiving final approval by four committees: the House Transportation Committee, the House Natural Resources Committee, the Senate Transportation Committee, and the Senate Natural Resources Committee. Following approval by all four committees, the plan moved to the floor of the respective houses of the legislature where it was unanimously passed. All comments received on the plan as well as transcripts from the town hall meetings and other information related to the public outreach effort are available in Appendix G of the 2012 Coastal Master Plan.[2] The 2012 Coastal Master Plan was formally approved by the Louisiana Legislature on May 22, 2012.

The Coastal Master Plan is implemented each year through an annual spending plan ("Annual Plan") that is also subject to extensive public comment and legislative approval. Since 2007, the CPRA has presented an Annual Plan for public comment and legislative approval that contains the expected revenues and expenditures for the coming fiscal year as well as projections for the next three years.

The projects proposed in this Multiyear Implementation and Expenditure Plan are included in the FY 2016 Annual Plan: (1) the Houma Navigation Canal Lock Complex, (2) the Calcasieu Ship Channel Salinity Control Measures, (3) Adaptive Management, and (4) Parish Matching Program. (*See* 2016 Annual Plan pp. 3, 11, 14, 32, 40, 53, 60, & Table B-15).

These projects were prioritized for RESTORE Direct Component purposes due to their regional nature and far-reaching benefits to the overall ecological and economic recovery of the Gulf. In addition, these projects were identified as top performers through the Coastal Master Plan's Planning Tool. For example, the Planning Tool's modeling results showed that in certain cases, the sustainability of marsh creation projects increased from being completely unsustainable to being sustainable for more than 50 years when modeled as part of a group of projects including hydrologic restoration and salinity control structures. (*See* 2012 Master Plan p. 90).

[2] The 2012 Coastal Master Plan appendices may be accessed at http://coastal.la.gov/a-common-vision/2012-coastal-master-plan/cmp-appendices/.

The Coastal Master Plan is a living document that contains a suite of objectives and goals and lays out a non-exclusive set of specific projects allowing the state to reach those goals. However, for any coastal restoration or protection project that is undertaken by the state, Executive Order No. BJ 2008-7 (1/23/08) requires all state agencies to "administer their regulatory practices, programs, contracts, grants, and all other functions vested in them in a manner consistent with the Coastal Master Plan and public interest to the maximum extent possible. Therefore, according to La. R.S. 49:214.5.1 *et seq.* and Executive Order No. BJ 2008-7 (1/23/08), the state may only expend funds received under the RESTORE Act for those projects or programs that are in the Coastal Master Plan or consistent with the Master Plan according to CPRA's consistency guidelines[3].

Below are additional details on current outreach and engagement opportunities CPRA provides and which have ultimately informed the development of this Multiyear Implementation and Expenditure Plan.

1. CPRA Board Monthly Public Meetings

The CPRA Board holds monthly meetings to provide the public with updates related to projects, programs, and policies. A public comment period is included at the close of each monthly meeting allowing the opportunity for citizens to ask questions or provide comments for the record. The Houma Navigation Canal Lock Complex, the Calcasieu Ship Channel Salinity Control Measures project, Adaptive Management and the Parish Matching Program, which are proposed herein for Direct Component funding, have been identified and discussed specific to RESTORE Act funding at numerous CPRA Board meetings over the past two years. Specifically, these projects were discussed at the following meetings: November 28, 2012, May 15, 2013, August 20, 2014, October 15, 2014, November 12, 2014, February 11, 2015, and April 15, 2015. Moreover, at each of these meetings, there was also a public comment period dedicated to comments related to the RESTORE Act. The CPRA Board officially approved these four projects for Direct Component funding on February 11, 2015 and these projects are listed in the FY 2016 Annual Plan for Direct Component funding. (2016 Annual Plan p. 40 & Table B-15).

CPRA staff regularly attends these meetings and are available before and after to discuss agency initiatives with members of the public. Meeting details, including itemized agendas, are posted to CPRA's online calendar which is located at www.coastal.la.gov.

2. National Environmental Policy Act / Permitting Project-Specific Opportunities

Throughout project development there are a number of project-specific opportunities for public engagement and comment incorporated into the National Environmental Policy Act ("NEPA") and permitting processes.

3. Community Meetings

As the projects progress, the state will be available to meet with local groups and leaders to provide information. CPRA also has staff available to meet with citizens in smaller groups, so that we can answer questions and share updates. To request a meeting on the status of projects listed in this Multiyear

[3] The Consistency Guidelines for the 2012 Coastal Master Plan are available at: http://coastal.la.gov/wp-content/uploads/2013/12/MPConsistencyGuidelines112013.pdf.

Implementation and Expenditure Plan, or to be added to our mailing list, please send an email to: coastal@la.gov.

V. PROPOSED PROJECT LIST

The goals and objectives of the RESTORE Council's Comprehensive Plan include large-scale projects that have a commensurate level of ecosystem benefits and far-reaching effects, particularly when combined with complementary projects as part of a coordinated program. The State of Louisiana, in response to an ongoing coastal land loss crisis, has identified a large number of projects in its 2012 Master Plan that align with the Council's goals and objectives for comprehensive restoration. These projects have been rigorously studied, analyzed using the best available science and publicly vetted; and will significantly contribute to the restoration and protection of the Gulf Coast region and the more inclusive Gulf of Mexico Large Marine Ecosystem.

While it is the state's position that the 2012 Coastal Master Plan and the FY 2016 Annual Plan meet the broad objectives of the RESTORE Act and the goals and objectives of the Council's Comprehensive Plan, the individual projects listed here for funding also meet the requirements of the Act as a whole and the Direct Component grant program identified in 33 U.S.C. §1321(t)(1).

The following information provides a summary of the current funding request for each project and additional details about these projects.

Project Name	Direct Component Funding Request
Houma Navigation Canal Lock Complex	$16,000,000
Calcasieu Ship Channel Salinity Control Measures	$16,000,000
Adaptive Management	$ 2,400,000
Matching Opportunities	TBD (estimated up to $ 3,900,000)

Houma Navigation Canal Lock Complex (see also Appendix A):

- Need: The project is contained in the 2012 Master Plan as Project 03a.HR.10 and in the 2016 Annual Plan as TE-113 and is needed to reduce salt water intrusion and distribute freshwater within the Terrebonne Basin, an area which is experiencing one of the highest rates of land loss in coastal Louisiana. This project will also mitigate damage to fish, wildlife and natural resources which rely on freshwater inputs and limit the intrusion of salt water into freshwater marsh systems allowing for the maintenance of thousands of acres of wetlands which serve as critical wildlife habitat and nurseries for fisheries. The Houma Navigation Canal ("HNC") Lock Complex will also provide crucial flood protection by blocking storm surge. Additionally, the HNC Lock Complex is part of the Morganza to the Gulf Hurricane Protection Project. The Morganza to the Gulf Feasibility Study, which includes the HNC Lock Complex, was completed and received a Chief of Engineer's Report in 2002 and supplemental report in 2003. Subsequently, the project was authorized under the Water Resources Development Act ("WRDA") in 2007 and received WRDA reauthorization in 2014 per the Post Authorization Change Report and the 2013 Chief's Report and Record of Decision.
- Purpose: The HNC Lock Complex is a hydrologic project that will provide several critical purposes in the Terrebonne Basin; the primary purpose of the project is to reduce salt water intrusion and distribute freshwater within the Terrebonne Basin. A second purpose of the project is to provide storm surge protection as a part of the Morganza to Gulf system. A third purpose is to continue navigation in the HNC for commercial and recreational uses. A fourth purpose is that restoring this coastal ecosystem and lowering the risk associated with sea level rise, subsidence, and tropical events along the coast will also improve the long-term economic health of the region.
- Objectives: Operations to control freshwater distribution will be a key part of the project for the Increase Atchafalaya Flow to Terrebonne project (listed in the Master Plan as 03b.DI.04 and the Annual Plan as TE-110). The structure is a part of the Morganza to the Gulf of Mexico (TE-64) hurricane protection system; Construction and Operation of the structure will be important to the success of the project purposes. A detailed operations and maintenance (O&M) plan will be included in the design of the project. The O&M of the project will aim to maximize environmental benefits while also making navigation and flood control a priority. (Eligible Activity (VII)). Further, by allowing for the maintenance of thousands of acres of critical wildlife habitat, key objectives of this project are to restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats and coastal wetlands of the Gulf Coast region, as well as mitigate damage to fish, wildlife and natural resources. (Eligible Activities (I) & (II)). As such, this project will contribute to the overall ecological and economic recovery of the Gulf by helping to restore historic salinity regimes in the mid Terrebonne basin and saving an anticipated 3,400 acres of marsh environment from degradation over 50 years. (*See* Appendix A).
- Funds Requested: The funds that will be requested for this project from the Direct Component are $16,000,000. The estimated engineering and design, as well as construction costs are based off of Alternative 3 from the URS Optimization Study. It is estimated that engineering and design will cost $34,389,521, while construction costs are estimated to be $323,395,211. Of the estimated engineering and design costs, $18,000,000 is being provided by CPRA State Surplus funds. A remaining amount of approximately $16,000,000 is required to complete the engineering and design effort and will be requested from Treasury under the Direct Component.

- High Level Milestones: Engineering and design.
- Measures of Success: Completion of engineering and design milestones. *See also* Section VII.

Calcasieu Ship Channel Salinity Control Measures (see also Appendix B):

- Need: The project is contained in the 2012 Coastal Master Plan as 004.HR.06 and the 2016 Annual Plan as CS-0065 and is needed to address modifications to hydrology that have caused an increase in salinity levels within the project area, resulting in degradation of the integrity of the surrounding marsh area and increased rates of wetland loss. This project will also mitigate damage to fish, wildlife and natural resources which rely on freshwater inputs and limit the intrusion of salt water into freshwater marsh systems allowing for the maintenance of thousands of acres of wetlands which serve as critical wildlife habitat and nurseries for fisheries.
- Purpose: The purpose of the project is to manage salinities being introduced through the Calcasieu Ship Channel into adjacent water bodies to reduce the rate of wetland loss in the surrounding wetlands. Restoring this coastal ecosystem and lowering the risk associated with sea level rise, subsidence, and tropical events along the coast will also improve the long-term economic health of the region.
- Objectives: Design, construction, and operation of measures designed to limit the intrusion of saline water into Calcasieu Lake through the Calcasieu Ship Channel. These measures would control salinity spikes, provide storm surge benefits, and would be constructed in a manner that would allow for the continued functioning and, ideally, improvement and increased viability of the Calcasieu Ship Channel and the Port of Lake Charles. Importantly, by allowing for the maintenance of thousands of acres of critical marsh environment which provide essential fish and wildlife habitat, key objectives of this project are to restore and protect the natural resources, ecosystems, fisheries, marine and wildlife habitats and coastal wetlands of the Gulf Coast region, as well as mitigate damage to fish, wildlife and natural resources. (Eligible Activities (I) & (II)). The project also protects the wetlands of the Chenier Plain, which provide storm surge protection to communities and ports in the Lake Charles area. The ports of Lake Charles and Cameron are key parts of the economy of Southwest Louisiana and include critical infrastructure. The loss of wetlands reduces the viability of the ports because of the increased exposure to storm surge. In sum, this project will contribute to the overall ecological and economic recovery of the Gulf by saving an anticipated 21,000 acres of marsh environment from degradation over 50 years. (*See* Appendix B).
- Funds Requested: The funds that will be requested for this project from the Direct Component are: $16,000,000. The estimated total cost of the project is $434,206,000. This includes an estimated $31,000,000 for engineering, design and permitting, $261,300,000 construction costs and $141,906,000 for operations, maintenance, and monitoring. This cost estimate is based on preliminary design that utilized professional judgment of an interdisciplinary team of engineers and existing data on the topography, bathymetry and geotechnical characteristics of the project sites. Cost estimates for design and operations, monitoring, maintenance and Adaptive Management are based on percentage estimates of the construction cost. The funds that will be requested from Treasury under the Direct Component are $16,000,000. This amount will fund the project development up to the 30% design

milestone. In order to reach this milestone, all field data needed to fully design the project will be collected and incorporated into the project. At the 30% design milestone, the project will be developed with sufficient detail to begin the National Environmental Policy Act ("NEPA") process. CPRA has worked with the Chenier Plain Coastal Restoration and Protection Authority, the Cameron Parish Police Jury and Calcasieu Parish Police Jury throughout the plan selection process. All parties regularly communicated about the project status and important decision-making. It is anticipated that this collaboration will continue throughout the project life.

- High Level Milestones: Project development to the 30% design level.
- Measures of Success: Achieving the 30% design level milestone. *See also* Section VII.

Adaptive Management (see also Appendix C):

- Need: Adaptive Management is a significant strategy employed in the 2012 Coastal Master Plan. Managing complex environments in which the natural and socio-economic systems are highly integrated is inherently difficult. In addition, deltaic environments are uniquely challenged due to the interdependence and delicate balance of water, land and economic systems and future uncertainties regarding the magnitude and rate of climate change impacts. Adaptive Management in deltaic environments encourages an integrated and flexible approach to land and water management that considers risk and uncertainty. It promotes solutions that are sustainable even if conditions change by providing a mechanism for robust decision-making.
- Purpose: Adaptive Management is a key feature of the 2012 Coastal Master Plan process as a business operation strategy and has been presented in the subsequent Annual Plans. As required by state law, the Coastal Master Plan uses an iterative process and must be updated at least every five years to reflect what the state learns over time through monitoring, modeling and the development of new project concepts. As such Adaptive Management is not a project that can be constructed, but a way of doing business that streamlines the implementation of the Coastal Master Plan by maximizing its long-term benefits through institutionalization of the learning process, providing a structured process for resolving uncertainties and integrating new knowledge into the construction and operations of projects, and providing adaptation pathways to allow maximum flexibility for future management decisions.
    - Adaptive Management is a strategy that allows for flexibility in implementation as conditions change, allows for resolution of uncertainties to improve future decision-making, and enables the modification of constructed projects while informing the development of future projects.
    - By allowing flexibility in implementation as conditions change, the Adaptive Management program is also essential to the long-term performance of these projects and the achievement of the greatest amount of positive ecosystem improvement.
- Objective: CPRA's Adaptive Management strategy includes data collection and management, which includes the development and implementation of a System-Wide Assessment and Monitoring Program ("SWAMP") that is currently being designed. The SWAMP program will provide much of the data that will be used to evaluate and manage large-scale projects, such as the HNC Lock Complex and the Calcasieu Ship Channel Salinity Control Measures. Although these projects may also have project-

specific Operations, Maintenance, Monitoring and Adaptive Management plans developed which will draw on the SWAMP program (SWAMP will serve as the backbone of any project-related monitoring needs), there may be additional project-specific monitoring added at the project level. However, data management, data availability/sharing, decision-support tool refinement, uncertainty-resolution activities, and other supporting functions will be governed by CPRA's Adaptive Management strategy. Accordingly, this Adaptive Management strategy will play a large role in terms of fulfilling the objectives of the HNC Lock Complex and the Calcasieu Ship Channel Salinity Control Measures projects of maintaining thousands of acres of critical marsh environment which provide essential fish and wildlife habitat. This is because the Adaptive Management strategy will enhance the state's ability to monitor how successfully these projects, as well as other large-scale projects included in the CPRA's Adaptive Management strategy, are restoring and protecting the natural resources, ecosystems, fisheries, marine and wildlife habitats and coastal wetlands of the Gulf Coast region and mitigating damage to fish, wildlife and natural resources. (Eligible Activities (I) & (II)). This project will also contribute to the overall ecological and economic recovery of the Gulf because understanding the trajectory of land loss in coastal Louisiana, the causes of that loss, and the effects of efforts to improve this trajectory towards stability and long term sustainability are of critical importance to the state, the Gulf region, and to the Nation. Application of Adaptive Management principals to the management of our coast will improve decision-making, will build institutional knowledge and capacity to continually improve our understanding of the system, and will facilitate the informed adjustment of management actions to best achieve long-term sustainability. Long-term restoration and protection, specifically in Louisiana's dynamic coastal environment, must be an ongoing series of management decisions based upon a growing knowledge base of research information, updated measurements of ecosystem responses, and evaluations of degrees of progress in reaching goals and targets.

- Funds Requested: The funds that will be requested for this project from the Direct Component are: $2,400,000, which is approximately 7.5% of the total available funding. CPRA anticipates similarly proportioned requests as additional Direct Component and Spill Impact Component funding is made available
- High Level Milestones: Major milestones include the collection of data and enhanced data management.
- Measures of Success: CPRA will be implementing adaptive management strategies to increase the body of scientific and technical knowledge about Louisiana's coast and its interaction with natural and human systems. Louisiana's Coastal Master Plan has articulated 5 objectives with which will be used to evaluate success: 1) Flood Protection: Reduce economic losses from storm surge based flooding to residential, public, industrial, and commercial infrastructure; 2) Natural Processes: Promote a sustainable coastal ecosystem by harnessing the natural processes of the system; 3) Coastal Habitats: Provide habitats suitable to support an array of commercial and recreational activities coast wide; 4) Cultural Heritage: Sustain, to the extent practicable, the unique cultural heritage of coastal Louisiana by protecting historic properties and traditional living cultures and their ties and relationships to the natural environment; and, 5) Working Coast: Promote a viable working coast to support regionally and nationally important businesses and industries. Additionally, as discussed above, CPRA's development of SWAMP as a component of its adaptive management framework will

orchestrate the collection and management of natural and human system information to evaluate these criteria. *See also* Section VII.

CPRA-Parish Matching Opportunities Program (see also Appendix D):

- Need: The CPRA recognizes (i) the importance of parish-state partnerships in working together to achieve comprehensive integrated coastal protection as identified in Louisiana's Coastal Master Plan, as well as (ii) the fact that because Louisiana's Coastal Master Plan is a resource-limited approach to coastal restoration and protection, it is not possible to include every worthy project in the Coastal Master Plan.
- Purpose: This matching program is designed to help parishes prioritize Coastal Master Plan projects while also recognizing and responding to the needs of parishes to implement projects that may not be specifically contained in the Coastal Master Plan but are nevertheless consistent with the Coastal Master Plan. This approach will allow the CPRA to connect large scale projects with strategic local projects in a way that can maximize efficiencies and the impact of RESTORE Act funds.
- Objective: The CPRA intends to allocate up to ten percent (10%) of the funds it receives under the Direct Component and the Spill Impact Component of the RESTORE Act for project and program matching opportunities for eligible parishes (i.e. those identified in 33 U.S.C. §1321(t)(1)(D)(II)).
- Funds Requested: Funds will be requested after matching projects have been solicited, identified, publicly reviewed and selected. The state has committed to setting aside up to 10% of the total funds the state receives through both the Direct Component and the Spill Impact Component for matching opportunities with coastal Parishes. Once matching projects have been solicited and identified for matching funds under the program identified in this Multiyear Implementation and Expenditure Plan, those projects will undergo the same procedure for public comment as outlined in Section III of this Multiyear Implementation and Expenditure Plan.

The project-specific information provided above will be provided to Treasury using its RESTORE Act Direct Component Multiyear Plan Matrix (*see Appendix E*) and its RESTORE Act Direct Component Multiyear Plan Narrative (*see Appendix F* for a sample narrative).

VI. PROCESS FOR PRIORITIZING AND SELECTING PROJECTS

The CPRA developed a robust decision-making process to ensure that formulation of the 2012 Coastal Master Plan was based on the best science and technical information available, while still incorporating an extensive public outreach campaign. This same process also informed the prioritization and selection of projects for funding under the Annual Plan and this Multiyear Implementation and Expenditure Plan specific to the RESTORE Act. More specifically, the process was guided by clearly-articulated objectives developed for the 2007 Master Plan and by planning principles developed to aid in meeting those objectives. The objectives were clearly defined to reflect key issues affecting communities in and around Louisiana's coast:

1. Reduce economic losses from storm surge flooding,

2. Promote a sustainable coastal ecosystem by harnessing the natural processes of the system,

3. Provide habitats suitable to support an array of commercial and recreational activities coast wide,
4. Sustain the unique cultural heritage of coastal Louisiana, and
5. Promote a viable working coast to support regionally and nationally important businesses and industries.

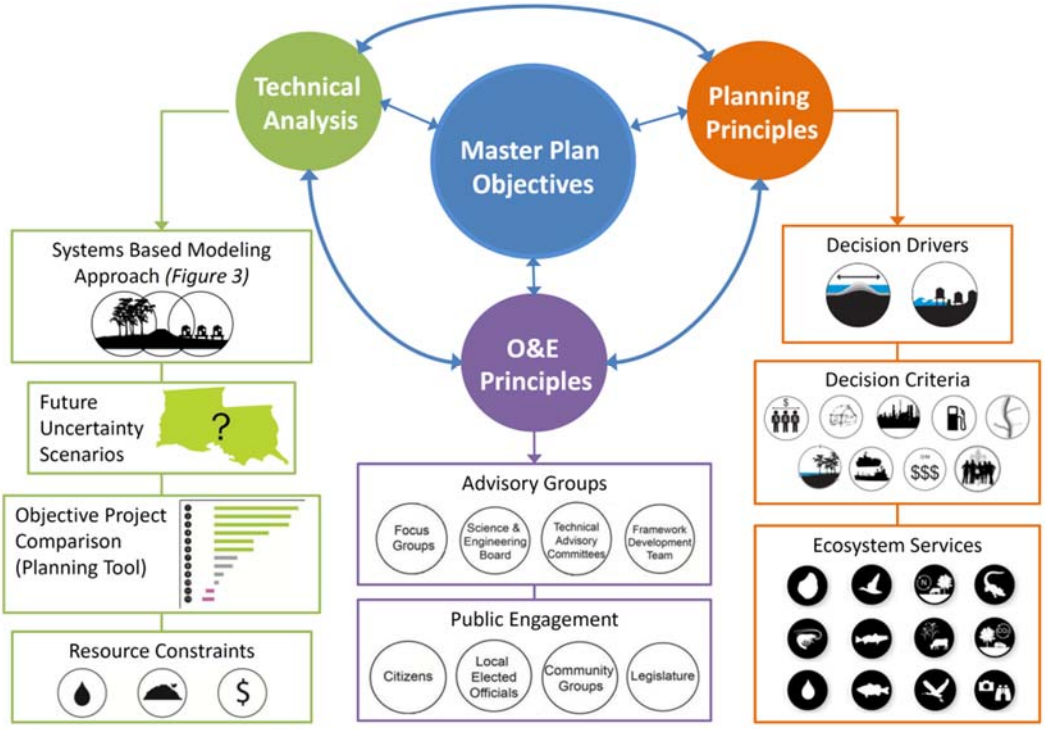


Figure 1. The decision-making process is a complex interaction of input and feedbacks between a technical analysis, outreach and engagement (O&E) and planning principles. The overall goal of the Master Plan is defined by the objectives. The systems-based modeling approach, future uncertainty scenarios, planning tool and resource constraints all contribute to the technical data needed for the decision-making process. The planning principles and formulation involve decision drivers, decision criteria and ecosystem services metrics, as described in the methods section, which help determine the plan's ability to meet the objectives. The O&E strategy was designed to ensure public input and acceptance throughout the decision-making process and multiple groups were involved in defining and reviewing the technical analysis and plan formulation (Peyronnin et al. 2013).

Evaluating Projects

The purpose for the 2012 Coastal Master Plan was to identify coastal protection and restoration projects that would improve the lives of coastal residents by creating a more resilient south Louisiana. Achieving this goal required new tools that helped us better understand our coast and how projects could provide benefits. The coast is a complex system. We needed to better understand how it is changing today and the kinds of changes we can expect in the future. We also had hundreds of project ideas and different views about how to move forward, and needed a way to sort through our many options and find those that would work best for us.

To meet these needs, CPRA used a systems approach to coastal planning and a science-based decision making process that resulted in a plan that was both funding- and resource- constrained. These tools helped us

understand the practical implications of different project options and how gains in one area might create losses in another. Based on the preferences we wanted to explore, our tools helped identify strategies for investing in coastal protection and restoration projects. This analysis improved our understanding of how projects were affected by: our budget and the river water and sediment that we have to work with. We also used the tools to consider possible future coastal conditions that could affect the way our projects operate, along with other factors such as construction time.

The Predictive Models

The 2012 Coastal Master Plan analyzed both protection and restoration measures, which influenced the models we selected and how they work. To estimate risk reduction outcomes, we used models that evaluated storm surge and the risk of expected annual damages. To estimate restoration outcomes, the models looked at how land changes throughout the coast—where land is building and where it is disappearing. These models examined how water moves through the coastal system as well as how salt and fresh water affect vegetation and habitats for key species and ecosystem services.

The integrated suite of Predictive Models developed for the Coastal Master Plan assessed how Louisiana's coastal landscape may change and how much damage communities may face from storm flooding over the next 50 years if we take no further action and for comparison then assessed how the coastal ecosystem and our level of risk could change if certain risk reduction and restoration projects are constructed. The models incorporated what we know about the way the coast works, and they made it easier to identify projects that best achieve our objectives.

Ecosystem services are benefits that the environment provides to people. In Louisiana, these range from providing the right habitats for oysters and shrimp to nature-based tourism. We could not detail the economic aspect of ecosystem services in our analysis. Instead, we focused on proxy characteristics of the coast, such as provision of habitat (i.e. habitat suitability indices) and other factors that can support ecosystem services.

The Predictive Models used in the Coastal Master Plan were organized into seven linked groups (Figure 2), involving the work of over 60 scientists and engineers. Each group worked on a different aspect of how the coastal system changes over time. Our effort was based on existing models where they were appropriate. New models were developed for vegetation, nitrogen uptake, barrier shorelines, flood risk, and to reflect potential for nature based tourism, fresh water availability, and support for agriculture/ aquaculture.

The models were designed to work together, following the precedent set by earlier state planning efforts, such as the Coastal Louisiana Ecosystem Assessment and Restoration ("CLEAR") work conducted for the Louisiana Coastal Area Study (Nuttle et al., 2004; USACE, 2004). We also found new ways to link the expanded set of models to more fully capture how the coast works as a system. The level of modeling in the 2012 Coastal Master Plan was a significant technical achievement in the systems approach, the linked nature of the models, and in the breadth of subjects evaluated.

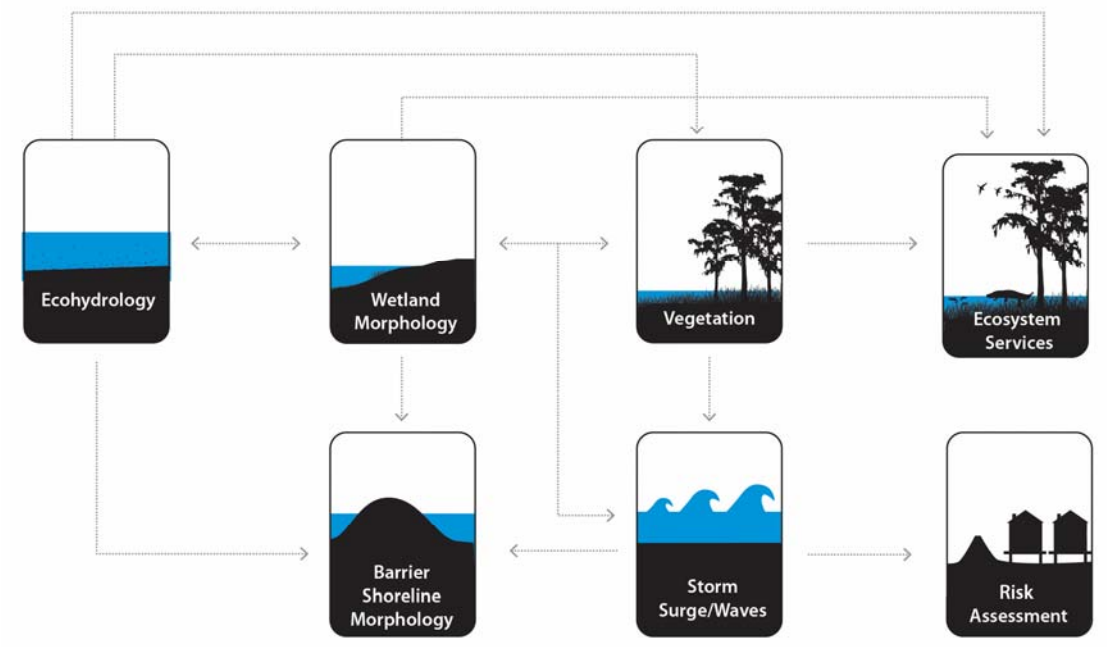


Figure 2. 2012 Master Plan predictive model groups (Meselhe et al. 2013, Couvillion et al. 2013, Visser et al. 2013, Nyman et al. 2013, Cobell et al. 2013, Johnson et al. 2013).

Future Environmental Scenarios

Many factors that will have a profound effect on the future of Louisiana's coast cannot be easily predicted or are outside of our control. These include factors such as subsidence and the levels of nutrients in the river, as well as the effects of climate change, such as sea level rise, changes in rainfall patterns, and storm frequency and intensity. Climate change was central to our analysis, given coastal Louisiana's vulnerability to increased flooding and the sensitivity of its habitats.

To account for these factors when developing the Coastal Master Plan, we worked with experts to develop two different sets of assumptions or scenarios. These scenarios reflect different ways future coastal conditions could affect our ability to achieve protection and build land:

- **Moderate scenario - assumed limited changes in the factors on the facing page over the next 50 years.**
- **Less optimistic scenario - assumed more dramatic changes in these factors over the next 50 years.**

The Planning Tool

The Planning Tool, in concert with the modeling effort, offered a way to examine projects. The model results, represented by terabytes of data, are the building blocks of the 2012 Coastal Master Plan. We needed a user friendly way to sort and view these results so that we could identify groups of projects to examine in greater detail. The Planning Tool is a decision support system that helps the state choose smart investments for the coast. The tool integrates information from the models with other information such as funding constraints, compares how different coastal restoration and risk reduction projects could be grouped, and allows us to systematically consider many variables (e.g., project costs, funding, landscape conditions, and stakeholder preferences). These science-based tools help us understand the practical implications of different project

options. Based on the outcomes, our tools suggested a strategy for investing in coastal flood risk reduction and restoration projects. As part of this strategy, the tools considered the constraints, such as the limited money, water, and sediment that we have to work with. The tools also considered possible future conditions that will affect the way our projects operate, along with other important factors such as construction time and how combinations of projects will work together. These results were translated so that citizens and state leaders could understand the projects' real world effects.

We used predictive models and the Planning Tool to help us select 109 high-performing projects that could deliver measurable benefits to our communities and coastal ecosystem over the coming decades. The Planning Tool was designed to translate the models' scientific output and show the practical implications of different options. Decision making for the plan followed directly from this analysis.

VII. EVALUATION OF THE SUCCESS OF THE SELECTED ACTIVITIES

At the project-scale level, performance measures will track the progress towards meeting management goals and objectives. Establishment of detailed monitoring requirements will be finalized for the Calcasieu Ship Channel Salinity Control Measures and the Houma Navigation Canal Lock Complex projects upon completion of the engineering and design phase of these projects. However, monitoring for the Calcasieu Ship Channel Salinity Control Measures will likely include surface and marsh porewater salinity, which can use previous studies, including work done as part of the Southwest Coastal Louisiana Study to establish background conditions for comparison of project effects. Other monitoring parameters for these projects could include water level conditions in emergent marshes, local hydrodynamics near project features, and fish and wildlife monitoring. Monitoring parameters for the Houma Navigation Canal Lock Complex project are in development and will likely also include surface and marsh porewater salinity, water level conditions, local hydrodynamics near project features, and fish and wildlife.

Additionally, the Adaptive Management funds will allow CPRA to monitor these projects over time and tailor performance measures to help reduce uncertainty surrounding predictive models and inform whether intended results are being achieved or if additional actions are needed to fulfill program expectations.

CPRA is currently working with the Water Institute of the Gulf to more fully develop a System-wide Assessment and Monitoring Program ("SWAMP") that will bring existing monitoring and assessment programs under one comprehensive umbrella in an effort to avoid duplication and improve efficiency. SWAMP is envisioned to be a scalable program that will allow for data assessments to be completed at the project-, basin-, and program-scales. Individual projects will generate monitoring plans which will nest within the larger SWAMP framework and will allow for periodic assessment of project performance against performance expectations. Concurrent with this effort, existing monitoring programs, such as Coastwide Reference Monitoring System ("CRMS") and Barrier Island Comprehensive Monitoring ("BICM") programs are being incorporated into the SWAMP design framework, and projects that require monitoring strategies are being informed and nested within this overall framework. That is not to say that some projects will not require additional monitoring to supplement SWAMP; however, SWAMP will provide the backbone to facilitate comprehensive programmatic performance assessment.

VIII. CONFLICTS OF INTEREST AND FINANCIAL INTEGRITY

The State of Louisiana maintains rigorous conflicts of interest standards which apply to the CPRA, any subgrantee who receives funds for a project or program described in this Multiyear Implementation and Expenditure Plan and any contractor who performs work on a project described in this Plan. Accordingly, the CPRA, which has developed this Plan and will be responsible for the implementation of the projects and programs described herein, and any subgrantee or contractor who performs work on a project described in this Plan shall comply with all applicable requirements of Chapter 15 of Title 42 of the Louisiana Revised Statutes (La. R.S. 42:1101 *et. seq.,* Code of Governmental Ethics) Louisiana's dual employment prohibitions, La. R.S. 42:61 *et seq.*, 2 C.F.R. §200.318(c), and shall use best practices to guard against conflicts of interest in accordance with Louisiana and Federal law. The CPRA, any subgrantee who receives funds for a project or program described in this Plan and any contractor who performs work on a project described in this Plan shall also comply with all applicable provisions of the U.S. Department of Treasury's RESTORE Act regulations, 31 C.F.R. Part 34, Treasury's RESTORE Act Financial Assistance Standard Terms and Conditions and Program-Specific Terms and Conditions, and any applicable project- or program-specific Special Award Conditions from the Council.

The CPRA transitioned to a new accounting system called LaGov on July 1, 2014. LaGov is Louisiana's financial and procurement system that integrates financial, human resources/payroll, procurement and logistics, and brings multiple benefits to CPRA, most importantly, system-generated project accounting. Other important advantages are increased visibility for management of federal grants and other funding sources, improvements in managing vendor relationships, improved reporting, and more efficient business processes. The CPRA is very experienced with managing federal grants and fully complies with all applicable provisions of the Uniform Guidance (2 C.F.R. Part 200) related to administration, cost principles and audit requirements. The CPRA, any subgrantee who receives funds for a project or program described in this Plan and any contractor who performs work on a project described in this Plan shall also comply with all applicable provisions of the Louisiana Public Bid Law, La. R.S. 38:2211 *et seq.* and the Louisiana Procurement Code, La. R.S. 39:1551 *et. seq*.

The CPRA, any subgrantee who receives funds for a project or program described in this Plan and any contractor who performs work on a project described in this Plan shall maintain all books and records pertaining to work performed under this Plan for a period of five (5) years after the date of final payment under a prime contract and any subcontract entered into for work performed under this Plan. Treasury, the Treasury Office of Inspector General, the Government Accountability Office, and the Council will have the right to access any documents, papers or other records, including electronic records that are pertinent to the projects or programs described in this Plan in order to make audits of such documents. Additionally, the Legislative Auditor of the State of Louisiana, the auditors of the Office of the Governor, Division of Administration, and the Office of the Inspector General shall have the authority to audit all records and accounts of the state and any subcontractors which relate to work performed under this Plan. Any audit shall be performed in accordance with La. R.S. 24:513 *et seq*.

In accordance with 31 C.F.R. §34.803(a), any indication of fraud, waste, abuse, or potentially any criminal activity pertaining to grant funds shall be reported to Treasury and the Treasury Inspector General.

Additionally, in accordance with La. R.S. 24:523.1, any actual or suspected misappropriation, fraud, waste or abuse of public funds shall be reported to one of the following:

Toll-Free Phone: 1-844-50-FRAUD (1-844-503-7283);

Or FAX to: 1-844-40-FRAUD (1-844-403-7283);

Or report via U.S. Mail: LLA Hotline
P. O. Box 94397
Baton Rouge, LA 70804

IX. AMENDMENTS TO THE MULTIYEAR IMPLEMENTATION AND EXPENDITURE PLAN

This RESTORE Act Multiyear Implementation and State Expenditure Plan will be updated and amended, as approved by the CPRA Board, as additional RESTORE Act funds become available under the Direct Component and the Spill Impact Component and as additional projects are proposed for funding under this Plan. Any projects or programs selected for funding as an amendment to this Plan will be subject to the approval of the CPRA Board and a forty five (45) day public comment period in accordance with Section III of this Plan before their selection is finalized by CPRA.

X. CONTACT INFORMATION

For any questions about this RESTORE Act Multiyear Implementation and Expenditure Plan, please contact:

Chris Barnes
Legal Advisor
Governor's Office for Coastal Activities
225.342.9036 (office)
225.208.1579 (fax)
chris.barnes@la.gov

APPENDIX A – HOUMA NAVIGATION CANAL LOCK COMPLEX

Purpose

The Houma Navigation Canal (HNC) Lock Complex is a hydrologic project that will provide several critical purposes in the Terrebonne Basin:

- The primary purpose of the project is to reduce salt water intrusion and distribute freshwater within the Terrebonne Basin.
- The project will also provide storm surge protection as a part of the Morganza to Gulf system.
- The project will allow for navigation to continue in the HNC for commercial and recreational uses.
- The structure will consist of a lock for everyday traffic and a wider flood gate for larger vessels as needed. The flood gate will have the ability to be opened or closed as needed to maximize freshwater distribution within the basin.

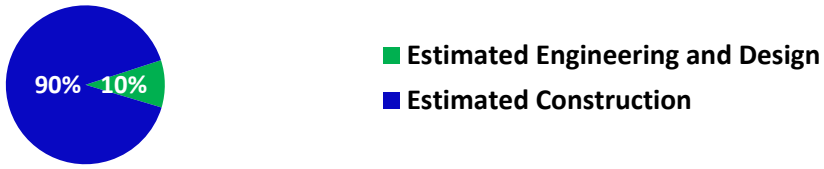
Ecosystem Outcomes and Economic Impacts

- The Terrebonne Basin is experiencing one of the highest rates of land loss in coastal Louisiana. By working synergistically with the TE-110 project this project will help to restore and protect this fragile ecosystem.
- This project will help to restore historic salinity regimes in the mid Terrebonne basin and is anticipated to save more than 3,400 acres of marsh environment from degradation over 50 years.
- Operations to control freshwater distribution will be a key part of the project for the Increase Atchafalaya Flow to Terrebonne (TE-110) project.
- The structure is a part of the Morganza to the Gulf of Mexico (TE-64) hurricane protection system.
- Construction and Operation of the structure will be key to the success of the project purposes.

Costs[1]

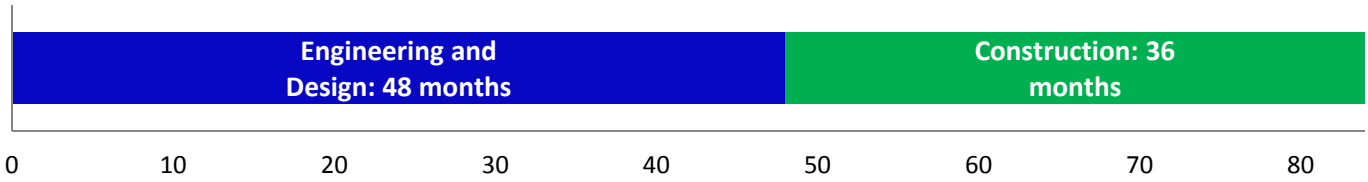
- Estimated Engineering and Design: $34,389,521
- Estimated Construction[2]: $323,395,211

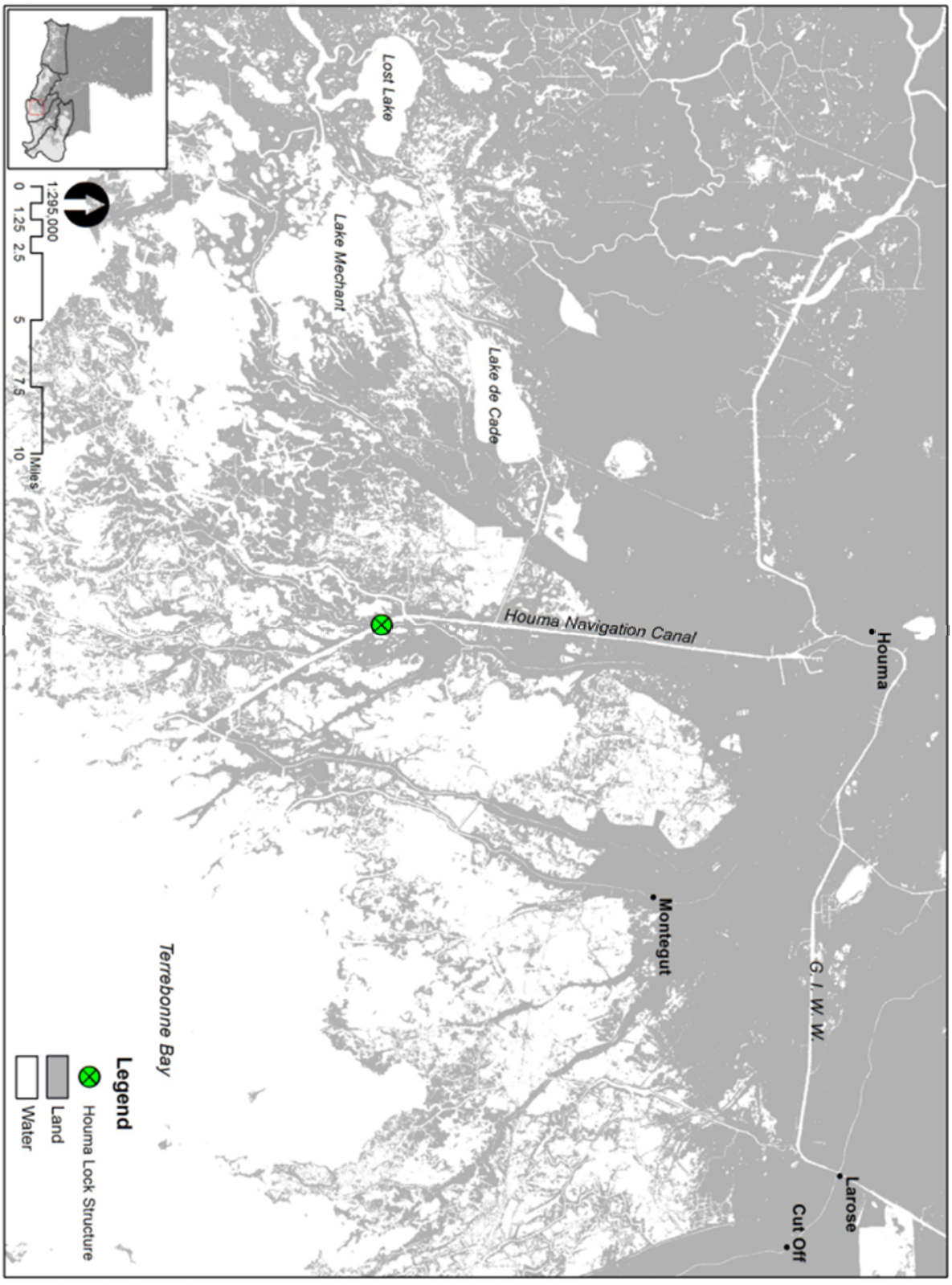
1. estimate based off of alternative 3 from URS Optimization Study
2. construction costs do not include construction admin and inspection



Implementation Timeline

Engineering and Design: Spring 2014 through Spring 2018
Construction: Summer 2018 through Summer 2021




Houma Navigation Canal Lock Complex
Houma
Larose
Cut Off
G. I. W. W.
Montegut
Houma Navigation Canal
Lake de Cade
Lake Mechant
Lost Lake
Terrebonne Bay
Legend
Houma Lock Structure
Land
Water
1:295,000
0 1.25 2.5 5 7.5 10
Miles

APPENDIX B – CALCASIEU SHIP CHANNEL SALINITY CONTROL MEASURES

Project Scope and Elements

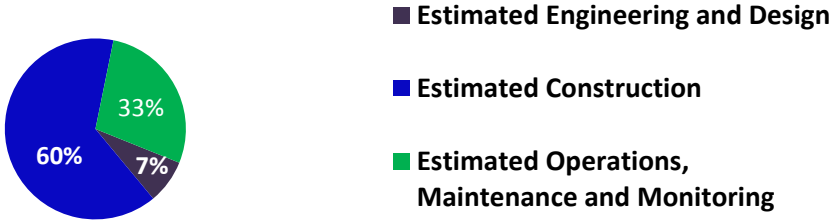
- The purpose of this project is to manage saline water being introduced through the Calcasieu Ship Channel into adjacent water bodies to reduce the rate of wetland loss in the surrounding wetlands and restore and protect this ecosystem.
- Earthen, rock and sheet-pile structures will be constructed along the Calcasieu River ship channel to reduce the exchange of saline water between the channel and adjacent waters.
- The project is expected to maintain over 21,000 acres of wetlands over 50 years compared to the Future Without Action.

Ecosystem Outcomes and Economic Impacts

- The Chenier Plain has been greatly impacted by the construction of navigation channels, which has raised salinity levels and increased erosion in marshes surrounding Calcasieu Lake.
- Salinity control will improve the integrity of marshes, which provide habitat to commercially important wildlife. Reducing wetland loss will preserve areas of National interest including Cameron Prairie and Sabine National Wildlife Refuges.
- Preserving wetlands will help to protect the communities and critical infrastructure along the ship channel.

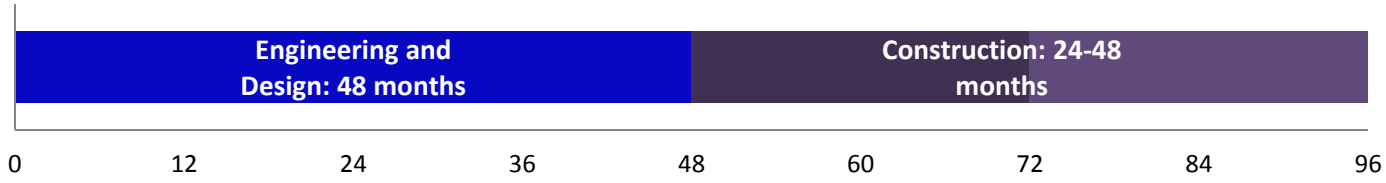
Costs

- Estimated Engineering and Design: $31,000,000
- Estimated Construction: $261,300,000
- Estimated Operations, Maintenance and Monitoring $141,906,000 (50 years)

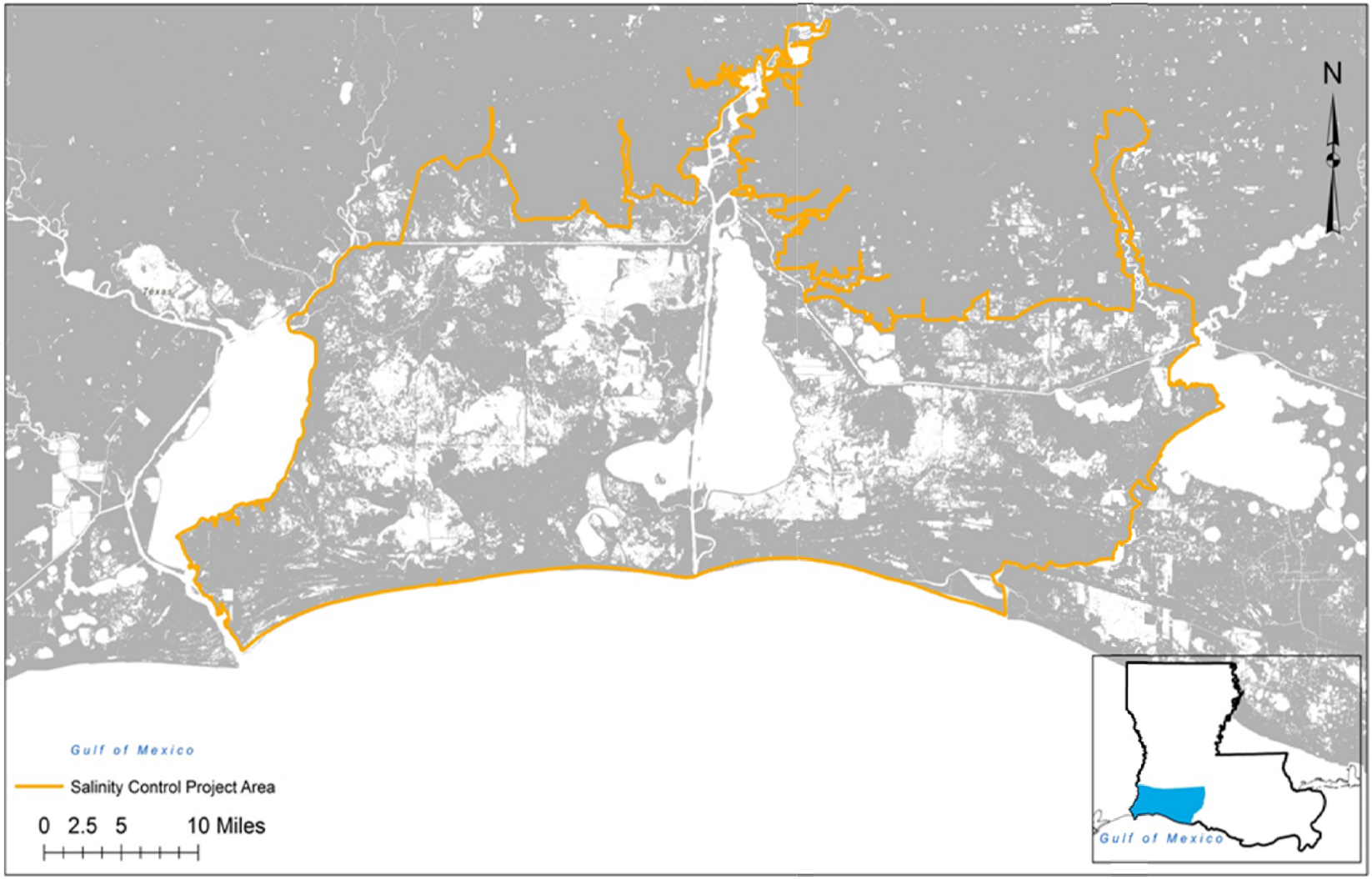


Implementation Timeline

Engineering and Design: 36 months estimated to begin Fall 2015
Construction: 24-48 months



Calcasieu Ship Channel Salinity Control Measures



APPENDIX C – ADAPTIVE MANAGEMENT

Purpose

- Predicting the success of restoration projects is an inexact science and environmental systems are inherently complex and non-linear. The purpose of Adaptive Management is to systematically improve our knowledge base and our understanding of how the ecosystem responds to restoration and protection projects, enabling ongoing learning from outcomes and facilitating adjustments and improvements in future decision making capabilities. This will allow the CPRA to more effectively accomplish the restoration and protection of Louisiana's fragile ecosystems.
- Project and program assessment, communication, and feedback loops are critical to CPRA's Adaptive Management strategy and affect every step in project and program implementation. Therefore, supporting efforts, such as focused applied research, science advisory boards, and modeling tool development, are critical. CPRA's Adaptive Management Strategy includes the development of a System-Wide Assessment and Monitoring Program (SWAMP) which will help streamline the implementation of the Master Plan and maximize its long-term benefits by: institutionalizing the learning process; providing a process for resolving uncertainties and integrating new knowledge into the construction and operations of projects; and providing adaptation pathways to allow maximum flexibility for future management decisions.
- The SWAMP program will provide much of the data that will be used to evaluate and manage large-scale projects, such as the Calcasieu Salinity Control Measures and Houma Navigation Canal Lock Complex Projects.

Ecosystem Outcomes and Economic Impacts

- In a complex ecological and socio-economic system such as coastal Louisiana, uncertainties in future conditions due to the dynamics of riverine and marine processes, climate change, population growth, economic activity, and ongoing human reliance on the natural resources of the coast, make restoration and protection inherently challenging.
- Adaptive Management encourages the integrated and flexible approach to land and water management that considers risk and uncertainty. It promotes solutions that are sustainable even if conditions change by providing a mechanism for robust decision making. Adaptive Management provides a structured process for making decisions over time through active learning and enables adjustments in program implementation as new information becomes available, thereby allowing the flexibility to make adjustments to the implementation of the Master Plan as conditions change and knowledge increases about the environment and socio-economic conditions.

Costs

- The value that Adaptive Management provides to large-scale ecosystem programs is immeasurable. Building knowledge about ecosystems and how they respond to management actions, directing research to answer questions about uncertain ecological relationships, and communicating new knowledge and information to the resource managers that make decisions are all activities that will improve the success of ecosystem restoration and protection programs.
- CPRA generated a total annual cost for Adaptive Management activities from 2011 through 2014. The amount of funding required for these activities is projected to continue to rise until leveraging opportunities and economies of scale are fully developed. Expenditures related to Adaptive Management activities between 2011 and 2014 have averaged 7.5% of the project implementation cost.

Implementation Timeline

- Adaptive Management does not lend itself to being characterized by a typical project timeline. Adaptive Management represents a lifestyle change where routine activities support and utilize a growing body of scientific and technical knowledge to assess and improve program effectiveness. Some aspects of Adaptive Management are already being implemented by CPRA; nevertheless, expansion of this capacity is contingent on available funding. Once initiated, however, there is no anticipated end date for Adaptive Management activities.

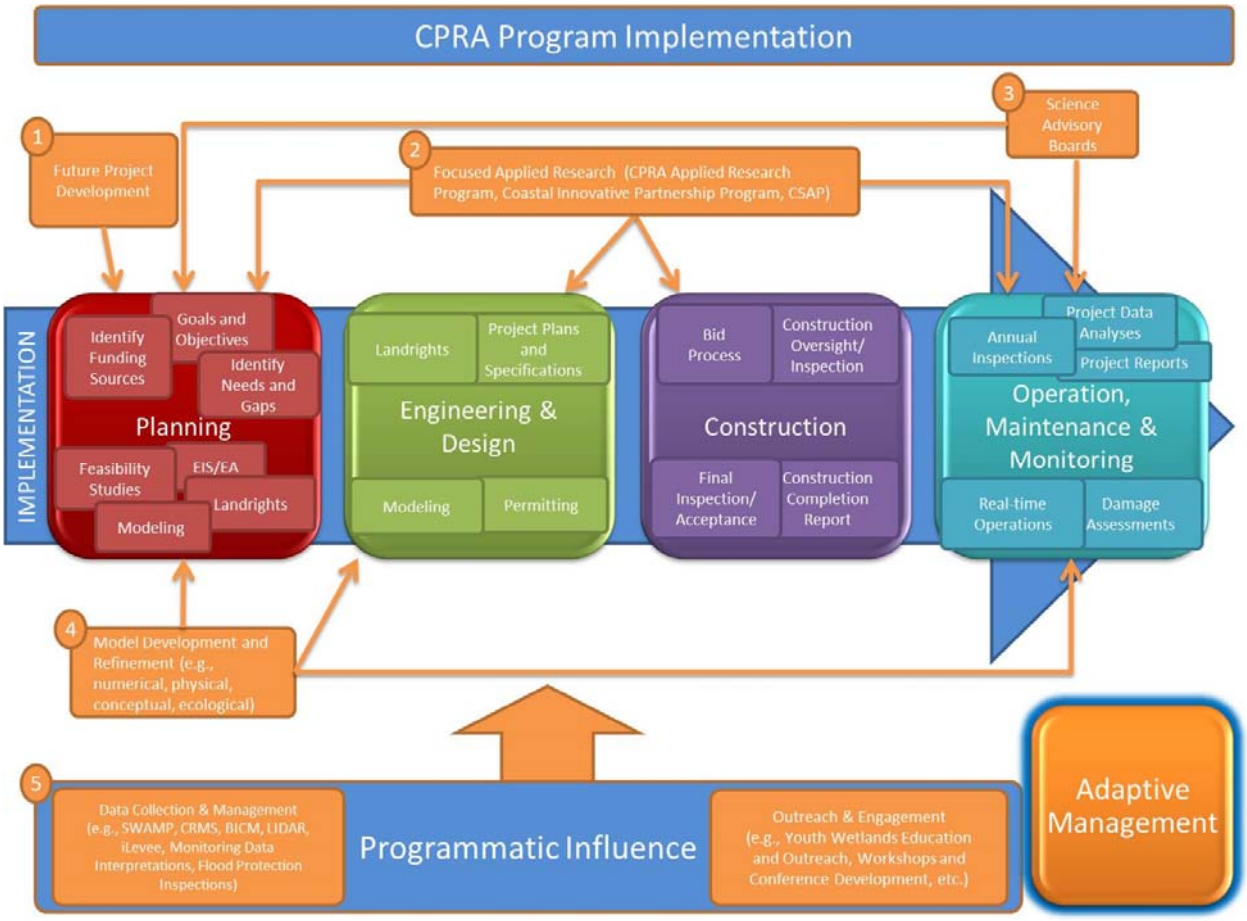


Figure 1. CPRA's program implementation process illustrating how Adaptive Management activities (shown in orange) support both projects and collective program implementation. Specific activities include: future project development, focused applied research, science advisory boards, model development, data collection and management, and outreach and engagement.

APPENDIX D – MATCH PROGRAM

CPRA-Parish RESTORE Act Matching Program

The Coastal Protection and Restoration Authority ("CPRA") has elected to allocate up to ten percent (10%) of the funds it receives under the Direct Component and the Spill Impact Component of the RESTORE Act for project and program matching opportunities for eligible parishes (i.e. those identified in 33 U.S.C. §1321(t)(1)(D)(II)).

Because the total amount of funding for the RESTORE Act's Trust Fund is not yet determined as litigation is still pending, and because each project and each eligible parish has its own unique set of circumstances, there will be no predetermined match percentage. However, the CPRA anticipates that it will offer a higher match percentage for those projects or programs that are proposed by an eligible parish for matching by state funds from the Direct Component or the Spill Impact Component of the RESTORE Act if that project or program is identified in Louisiana's Master Plan and a lower match percentage for those projects that are not identified in the Master Plan but are consistent with the Master Plan. (*See*, Master Plan Consistency Guidelines, Revised 11/20/2013)[4].

This matching program is designed to help parishes prioritize Coastal Master Plan projects while also recognizing and responding to the needs of parishes to implement projects that may not be specifically contained in the Master Plan, but are nevertheless consistent with the Coastal Master Plan. This approach will also allow the CPRA to connect large scale projects with strategic local projects in a way that can maximize efficiencies and the impact of RESTORE Act funds.

Project Solicitation and Selection for a CPRA-Parish RESTORE Act Match

Proposals for matching funds under the Direct Component or the Spill Impact Component should be no more than three pages in length (i.e., two page description and one page map). For each proposed project or program, the proposal should contain the following information:

(1) A narrative description indicating the need for, purpose, and objectives of the activity as well as a conceptual design and project area map;

(2) For proposed matching of Direct Component funds, how the activity is eligible for funding under 31 C.F.R. §34.201 and meets all requirements of 31 C.F.R. §34.201 and 31 C.F.R. §34.303;

(3) For proposed matching of Spill Impact Component funds, how the activity is eligible for funding under 31 C.F.R. §34.203 and meets all requirements of 31 C.F.R. §34.203 and 31 C.F.R. §34.503;

(4) Location;

(5) Budget;

(6) Milestones;

(7) Projected completion dates;

[4] *Available at*: http://www.lacpra.org/assets/docs/MP%20Consistency%20Guidelines.pdf.

(8) Criteria the applicant will use to evaluate the success of each activity in helping to restore and protect the Gulf Coast Region impacted by the *Deepwater Horizon* oil spill; and

(9) A description of how the proposed activity relates or contributes to the criteria listed below.

The following criteria will be used by CPRA to prioritize proposed activities for matching funds under the RESTORE Act:

(1) The funds available to CPRA for matching;

(2) Consistency with the objectives of the 2012 Comprehensive Master Plan for a Sustainable Coast and the provisions of La. R.S. 49:214.5.4(I);

(3) The relative merits of the proposed activity based on the information contained in the proposal;

(4) Synergy with other conservation/restoration efforts;

(5) Proposed constructability; and

(6) Funds made available by the Parish for the proposed activity.

Proposals will be accepted through [**TBD**][5]. A selection committee composed of CPRA staff will review and evaluate each proposed project based on the criteria listed above. Projects selected as finalists for funding will be notified by [**TBD**]. Additionally, any projects selected for matching funding by the CPRA under the RESTORE Act will be subject to the approval of the CPRA Board and a forty five (45) day public comment period in accordance with 31 C.F.R. §§34.303(a)(8), 34.503(b)(4) and (g) before their selection is finalized by CPRA. CPRA may announce additional rounds of funding in the future for matching proposals depending on availability of funds in the Trust Fund.

Proposals may be submitted via mail, email, or facsimile, but must be received by CPRA before close of business on [**TBD**]. Submissions should be sent to:

Vida S. Carver, P.E.
Project Management
Coastal Protection and Restoration Authority
225.342.2799 (office)
225.342.9417 (fax)
Vida.Carver@la.gov

[5] The time frame for submitting proposals will be specified upon the opening of the application window.

APPENDIX E – RESTORE ACT DIRECT COMPONENT MULTIYEAR PLAN MATRIX

RESTORE ACT Direct Component Multiyear Plan Matrix — Department of the Treasury												OMB Approval No. 1505-0250
Applicant Name:	Coastal Protection and Restoration Authority											
1. CUMULATIVE DIRECT COMPONENT ALLOCATION AVAILABLE FOR DISTRIBUTION TO APPLICANT:			$39,404,636		2. TOTAL ALLOCATIONS PLUS KNOWN FUNDS NOT YET DEPOSITED IN TRUST FUND FOR DIRECT COMPONENT:						$39,404,636	
3. Primary Direct Component Eligible Activity Further Described in Application (Static Field)	4. Activity Number and Activity Title (Static Field)	5. Location - Municipality(ies) (Static Field, locations also shown on attached map)	6. Total Funding Resources For Activity Budget (refer to Instructions)				7. Proposed Start Date mm/yyyy	8. Actual Start Date mm/yyyy (Static Field)	9. Proposed End Date mm/yyyy	10. Actual End Date mm/yyyy (Static Field)	11. Proposed High Level Milestones Further Described in Application	
			6a. Direct Component Contribution	6b. Other RESTORE Act Contribution	6c. Other Third Party Contribution	6d. Total Project Budget						
Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast Region	Houma Navigation Canal Lock Complex	Terrebonne Basin - see map attached in Appendix A to the Plan	$16,000,000	Not applicable at this time.	$18,000,000	$34,389,521	Fall 2015		Spring 2018		Completion of Engineering and Design. Note that the $18,000,000 listed in 6b has been provided from Louisiana State Surplus funds for Engineering and Design.	
Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast Region	Calcasieu Ship Channel Salnity Control Measures	Calcasieu, Cameron and Vermilion Parishes - see map attached in Appendix B to the Plan	$16,000,000	Not applicable at this time.	$0	$31,000,000	Fall 2015		Spring 2018		Project development to the 30% design level.	
Restoration and protection of the natural resources, ecosystems, fisheries, marine and wildlife habitats, beaches, and coastal wetlands of the Gulf Coast Region	Adaptive Management	Louisiana coastal area	$2,400,000	Not applicable at this time.	$0	$2,400,000	Fall 2015		Spring 2017		Collection of data and enhanced data management.	
	12. TOTAL FUNDING FOR BUDGET (refer to Instructions)		$34,400,000	$0	$18,000,000	$67,789,521						

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 1505-0250. Comments concerning the time required to complete this information collection, including the time to review instructions, search existing data resources, gathering and maintaining the data needed, and completing and reviewing the collection of information, should be directed to the Department of the Treasury, RESTORE Act Program, 1500 Pennsylvania Ave., NW, Washington, DC 20220.

APPENDIX F - RESTORE ACT DIRECT COMPONENT MULTIYEAR NARRATIVE

OMB Approval No. 1505-0250

Eligible Applicant Name:	

Name and Contact Information of the Person to be contacted (POC) on matters concerning this Multiyear Implementation Plan:

POC Name:	
POC Title:	
POC Email:	
POC Phone:	

B. PROVIDE A BRIEF NARRATIVE THAT DEMONSTRATES:

1. The need, purpose, and objectives for each activity, including a detailed description of each activity.

2. How the applicant made the multiyear plan available for 45 days for public review and comment, in a manner calculated to obtain broad-based participation from individuals, businesses, Indian tribes, and non-profit organizations, such as through public meetings, presentations in languages other than English, and postings on the Internet. The applicant will need to submit documentation (e.g., a copy of public notices) to demonstrate that it made its multiyear plan available to the public for at least 45 days. In addition, describe how each activity in the plan was adopted after consideration of all meaningful input from the public.

3. How each activity included in the applicant's multiyear plan matrix is eligible for funding and meets all requirements under the RESTORE Act.

4. How the applicant will evaluate success of the activities included in the matrix.

5. How the activities included in the multiyear plan matrix were prioritized and the criteria used to establish the priorities.

6. The relationship, if any, between the activities the applicant included in the multiyear plan matrix and other activities funded under the RESTORE Act.

According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number. The valid OMB control number for this information collection is 1505-0250. Comments concerning the time required to complete this information collection, including the time to review instructions, search existing data resources, gathering and maintaining the data needed, and completing and reviewing the collection of information, should be directed to the Department of the Treasury, RESTORE Act Program, 1500 Pennsylvania Ave., NW, Washington, DC 20220.